

SEQUENCE LISTING

<110> Allen, Stephen M.
Hitz, William D.
Rafalski, J. Antoni

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<151> April 9, 1998

<150> PCT/US99/07562

<151> April 7, 1999

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<213> Zea mays

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 <212> PRT
 <213> Zea mays

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 35 40 45
 Ala Leu Gln Leu Ser Leu Leu Thr Pro Tyr Val Gln Thr Leu Gly Leu
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 Ser His Ala Leu Thr Ser Phe Met Trp Leu Cys Gly Pro Ile Ala Gly
 65 70 75 80
 Leu Val Val Gln Pro Leu Val Gly Leu Tyr Ser Asp Arg Cys Thr Ser
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 Cys Val Ala Val Ile Val Val Gly Phe Ser Ser Asp Ile Gly Ala Ala
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 Ala Leu Gly Asn Ile Leu Gly Tyr Ser Ser Gly Ser Thr Asn Asn Trp
 195 200 205
 His Lys Trp Phe Pro Phe Leu Lys Thr Ser Ala Cys Cys Glu Ala Cys
 210 215 220
 Ala Asn Leu Lys Gly Ala Phe Leu Val Ala Val Val Phe Leu Val Leu
 225 230 235 240
 Cys Leu Thr Val Thr Leu Ile Phe Ala Lys Glu Val Pro Tyr Arg Ala
 245 250 255
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 260 265 270
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 His Gly Asp Pro Lys Gly Ser Asn Ala Gln Ile Ser Ala Phe Asn Glu
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 355 360 365
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 385 390 395 400
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 465 470 475 480
 Asn Ile Pro Ala Phe Gly Val Ala Ser Ala Phe Ala Leu Val Gly Gly
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 <212> DNA
 <213> Zea mays

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 20 25 30
 Phe Ser Leu Leu Gly Leu Pro Leu Ser Ile Thr Tyr Ser Val Pro Phe
 35 40 45
 Ser Val Thr Ala Glu Leu Thr Ala Gly Thr Gly Gly Gly Gln Gly Leu
 50 55 60
 Ala Thr Gly Val Leu Asn Leu Ala Ile Val Val Pro Gln Ile Val Val
 65 70 75 80
 Ser Leu Gly Ala Gly Pro Trp Asp Ala Leu Tyr Gly Gly Gly Asn Thr
 85 90 95
 Pro Ala Phe Val Leu Ala Ser Val Phe Ser Leu Ala Ala Gly Val Leu
 100 105 110
 Ala Val Leu Lys Leu Pro Lys Leu Ser Asn Ser Tyr Gln Ser Ala Gly
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 Phe His Gly Phe Gly
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 <212> DNA
 <213> Zea mays

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<210> 6
<211> 497
<212> PRT
<213> Zea mays

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Leu Leu Thr Pro Tyr Val Gln Thr Leu Gly Leu Ser His Ala Leu Thr
      35              40              45

Ser Phe Met Trp Leu Cys Gly Pro Ile Ala Gly Leu Val Val Gln Pro
      50              55              60

Leu Val Gly Leu Tyr Ser Asp Arg Cys Thr Ala Arg Trp Gly Arg Arg
      65              70              75              80

Arg Pro Phe Ile Leu Ile Gly Cys Met Leu Ile Cys Leu Ala Val Ile
      85              90              95

Val Val Gly Phe Ser Ser Asp Ile Gly Ala Ala Leu Gly Asp Thr Lys
      100             105             110

Glu His Cys Ser Leu Tyr His Gly Pro Arg Trp His Ala Ala Ile Val
      115             120             125

Tyr Val Leu Gly Phe Trp Leu Leu Asp Phe Ser Asn Asn Thr Val Gln
      130             135             140

Gly Pro Ala Arg Ala Met Met Ala Asp Leu Cys Gly His His Gly Pro
      145             150             155             160

Ser Ala Ala Asn Ser Ile Phe Cys Ser Trp Met Ala Leu Gly Asn Ile
      165             170             175

Leu Gly Tyr Ser Ser Gly Ser Thr Asn Asn Trp His Lys Trp Phe Pro
      180             185             190

Phe Leu Met Thr Asn Ala Cys Cys Glu Ala Cys Ala Asn Leu Lys Gly
      195             200             205

Ala Phe Leu Val Ala Val Val Phe Leu Ile Met Cys Leu Thr Ile Thr
      210             215             220

Leu Phe Phe Ala Lys Glu Val Pro Tyr Arg Gly Asn Gln Asn Leu Pro
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Thr Lys Ala Asn Gly Glu Val Glu Thr Glu Pro Ser Gly Pro Leu Ala
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Leu Val Thr Gly Leu Thr Trp Leu Ser Trp Phe Pro Phe Ile Leu Tyr
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Asp Thr Asp Trp Met Gly Arg Glu Ile Tyr His Gly Asp Pro Lys Gly
290 295 300

Ser Asn Ala Gln Ile Ser Ala Phe Asp Glu Gly Val Arg Val Gly Ser
305 310 315 320

Phe Gly Leu Leu Leu Asn Ser Ile Val Leu Gly Phe Ser Ser Phe Leu
325 330 335

Ile Glu Pro Met Cys Arg Lys Val Gly Pro Arg Val Val Trp Val Thr
340 345 350

Ser Asn Phe Met Val Cys Val Ala Met Ala Ala Thr Ala Leu Ile Ser
355 360 365

Phe Trp Ser Leu Lys Asp Tyr His Gly Tyr Val Gln Asp Ala Ile Thr
370 375 380

Ala Ser Thr Ser Ile Lys Ala Val Cys Leu Val Leu Phe Ala Phe Leu
385 390 395 400

Gly Val Pro Leu Ala Ile Leu Tyr Ser Val Pro Phe Ala Val Thr Ala
405 410 415

Gln Leu Ala Ala Thr Lys Gly Gly Gly Gln Gly Leu Cys Thr Gly Val
420 425 430

Leu Asn Ile Ser Ile Val Ile Pro Gln Val Ile Ile Ala Leu Gly Ala
435 440 445

Gly Pro Trp Asp Ala Leu Phe Gly Lys Gly Asn Ile Pro Ala Phe Gly
450 455 460

Val Ala Ser Gly Phe Ala Leu Ile Gly Gly Val Val Gly Val Phe Leu
465 470 475 480

Leu Pro Lys Ile Ser Lys Arg Gln Phe Arg Ala Val Ser Ala Gly Gly
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His

<210> 7
<211> 1653
<212> DNA
<213> Oryza sativa

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<210> 8
<211> 400
<212> PRT
<213> Oryza sativa

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          20          25          30

Thr Arg Leu Gly Ala Ile Ile Val Tyr Leu Val Gly Phe Trp Leu Leu
          35          40          45

Asp Val Gly Asn Asn Ala Thr Gln Gly Pro Cys Arg Ala Phe Leu Ala
 50          55          60

Asp Leu Thr Glu Asn Asp Pro Arg Arg Thr Arg Ile Ala Asn Ala Tyr
 65          70          75          80

Phe Ser Leu Phe Met Ala Leu Gly Asn Ile Leu Gly Tyr Ala Thr Gly
          85          90          95

Ala Tyr Ser Gly Trp Tyr Lys Ile Phe Pro Phe Thr Val Thr Pro Ser
          100          105          110

Cys Ser Ile Ser Cys Ala Asn Phe Lys Ser Ala Phe Leu Leu Asp Ile
          115          120          125

Ile Ile Leu Val Val Thr Thr Cys Ile Thr Val Ala Ser Val Gln Glu
          130          135          140

Pro Gln Ser Phe Gly Ser Asp Glu Ala Asp His Pro Ser Thr Glu Gln
          145          150          155          160

Glu Ala Phe Leu Trp Glu Leu Phe Gly Ser Phe Arg Tyr Phe Thr Leu
          165          170          175

Pro Val Trp Met Val Leu Ile Val Thr Ala Leu Thr Trp Ile Gly Trp
          180          185          190

Phe Pro Phe Ile Leu Phe Asp Thr Asp Trp Met Gly Arg Glu Ile Tyr
          195          200          205

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Arg Gly Ser Pro Asp Asp Pro Ser Ile Thr Gln Ser Tyr His Asp Gly
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Val Arg Met Gly Ser Phe Gly Leu Met Leu Asn Ser Val Leu Leu Gly
 225 230 235 240

Phe Thr Ser Ile Val Leu Glu Lys Leu Cys Arg Lys Trp Gly Ala Gly
 245 250 255

Leu Val Trp Gly Val Ser Asn Ile Leu Met Ala Leu Cys Phe Val Ala
 260 265 270

Met Leu Val Ile Thr Tyr Val Ala Lys Asn Met Asp Tyr Pro Pro Ser
 275 280 285

Gly Val Pro Pro Thr Gly Ile Val Ile Ala Ser Leu Val Val Phe Thr
 290 295 300

Ile Leu Gly Ala Pro Leu Ala Ile Thr Tyr Ser Ile Pro Tyr Ala Met
 305 310 315 320

Ala Ala Ser Arg Val Glu Asn Leu Gly Leu Gly Gln Gly Leu Ala Met
 325 330 335

Gly Ile Leu Asn Leu Ala Ile Val Ile Pro Gln Val Ile Val Ser Leu
 340 345 350

Gly Ser Gly Pro Trp Asp Gln Leu Phe Gly Gly Gly Asn Ala Pro Ala
 355 360 365

Phe Ala Val Ala Ala Ala Ala Ser Phe Ile Gly Gly Leu Val Ala Ile
 370 375 380

Leu Gly Leu Pro Arg Ala Arg Ile Ala Ser Arg Arg Arg Gly His Arg
 385 390 395 400

<210> 9
 <211> 2375
 <212> DNA
 <213> Oryza sativa

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tttttgacag aaaaatgtaa gctctgcccg aatgacatgg cggatagatt ttacaatgga 2280
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<210> 10
<211> 667
<212> PRT
<213> Oryza sativa

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Lys His Thr Thr Arg Thr Gln Gln Gln Gly Arg Arg Gln Phe Pro Ile
          20          25          30

Leu Pro Arg Pro Ala Ser Pro Arg Leu Ser Leu Thr Leu Gln Thr Pro
          35          40          45

Thr Ser Asp Ala Ala Ser Leu Ala Pro Cys Pro Arg Arg Ser His Gln
          50          55          60

Thr Leu Pro Asp Leu Arg Pro Ala Met Asp Ser Ala Ala Gly Gly Gly
          65          70          75          80

Gly Leu Thr Ala Ile Arg Leu Pro Tyr Arg His Leu Arg Asp Ala Glu
          85          90          95

Met Glu Leu Val Ser Leu Asn Gly Gly Thr Pro Arg Gly Gly Ser Pro
          100          105          110

Lys Asp Pro Asp Ala Thr His Gln Gln Gly Pro Pro Ala Ala Arg Thr
          115          120          125

Thr Thr Thr Arg Lys Leu Val Leu Ala Cys Met Val Ala Ala Gly Val
          130          135          140

Gln Phe Gly Trp Ala Leu Gln Leu Ser Leu Leu Thr Pro Tyr Ile Gln
          145          150          155          160

Thr Leu Gly Ile Asp His Ala Met Ala Ser Phe Ile Trp Leu Cys Gly
          165          170          175

Pro Ile Thr Gly Phe Val Val Gln Pro Cys Val Gly Val Trp Ser Asp
          180          185          190

Lys Cys Arg Ser Lys Tyr Gly Arg Arg Arg Pro Phe Ile Leu Ala Gly
          195          200          205

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Cys	Leu	Met	Ile	Cys	Phe	Ala	Val	Thr	Leu	Ile	Gly	Phe	Ser	Ala	Asp
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Leu	Gly	Tyr	Ile	Leu	Gly	Asp	Thr	Thr	Glu	His	Cys	Ser	Thr	Tyr	Lys
225					230					235					240
Gly	Ser	Arg	Phe	Arg	Ala	Ala	Ile	Ile	Phe	Val	Leu	Gly	Phe	Trp	Met
				245					250					255	
Leu	Asp	Leu	Ala	Asn	Asn	Thr	Val	Gln	Gly	Pro	Ala	Arg	Ala	Leu	Leu
			260					265					270		
Ala	Asp	Leu	Ser	Gly	Pro	Asp	Gln	Cys	Asn	Ser	Ala	Asn	Ala	Ile	Phe
		275					280					285			
Cys	Thr	Trp	Met	Ala	Val	Gly	Asn	Val	Leu	Gly	Phe	Ser	Ser	Gly	Ala
	290					295					300				
Ser	Gly	Asn	Trp	His	Lys	Trp	Phe	Pro	Phe	Leu	Met	Thr	Arg	Ala	Cys
305					310					315					320
Cys	Glu	Ala	Cys	Ser	Asn	Leu	Lys	Ala	Ala	Phe	Leu	Val	Ala	Val	Val
				325					330					335	
Phe	Leu	Leu	Phe	Cys	Met	Ser	Val	Thr	Leu	Tyr	Phe	Ala	Glu	Glu	Ile
			340					345					350		
Pro	Leu	Glu	Pro	Thr	Asp	Ala	Gln	Arg	Leu	Ser	Asp	Ser	Ala	Pro	Leu
		355					360					365			
Leu	Asn	Gly	Ser	Arg	Asp	Asp	Asn	Asn	Ala	Ser	Asn	Glu	Pro	Arg	Asn
	370					375					380				
Gly	Ala	Leu	Pro	Asn	Gly	His	Thr	Asp	Gly	Ser	Asn	Val	Pro	Ala	Asn
385					390					395				400	
Ser	Asn	Ala	Glu	Asp	Ser	Asn	Ser	Asn	Arg	Glu	Asn	Val	Glu	Val	Phe
				405					410					415	
Asn	Asp	Gly	Pro	Gly	Ala	Val	Leu	Val	Asn	Ile	Leu	Thr	Ser	Met	Arg
			420					425					430		
His	Leu	Pro	Pro	Gly	Met	Tyr	Ser	Val	Leu	Leu	Val	Met	Ala	Leu	Thr
		435					440					445			
Trp	Leu	Ser	Trp	Phe	Pro	Phe	Phe	Leu	Phe	Asp	Thr	Asp	Trp	Met	Gly
	450					455					460				
Arg	Glu	Val	Tyr	His	Gly	Asp	Pro	Asn	Gly	Asn	Leu	Ser	Glu	Arg	Lys
465					470					475					480
Ala	Tyr	Asp	Asn	Gly	Val	Arg	Glu	Gly	Ala	Phe	Gly	Leu	Leu	Leu	Asn
				485					490					495	
Ser	Val	Val	Leu	Gly	Ile	Gly	Ser	Phe	Leu	Val	Asp	Pro	Leu	Cys	Arg
			500					505					510		
Leu	Met	Gly	Ala	Arg	Leu	Val	Trp	Ala	Ile	Ser	Asn	Phe	Thr	Val	Phe
		515					520					525			
Ile	Cys	Met	Leu	Ala	Thr	Ala	Ile	Leu	Ser	Trp	Ile	Ser	Phe	Asp	Leu
	530					535					540				

Tyr Ser Ser Lys Leu His His Ile Ile Gly Ala Asn Lys Thr Val Lys
 545 550 555 560
 Asn Ser Ala Leu Ile Val Phe Ser Leu Leu Gly Leu Pro Leu Ser Ile
 565 570 575
 Thr Tyr Ser Val Pro Phe Ser Val Thr Ala Glu Leu Thr Ala Gly Thr
 580 585 590
 Gly Gly Gly Gln Gly Leu Ala Thr Gly Val Leu Asn Leu Ala Ile Val
 595 600 605
 Val Pro Gln Ile Val Val Ser Leu Gly Ala Gly Pro Trp Asp Ala Leu
 610 615 620
 Phe Gly Gly Gly Asn Val Pro Ala Phe Ala Leu Ala Ser Val Phe Ser
 625 630 635 640
 Leu Gly Ala Gly Val Leu Ala Val Leu Lys Leu Pro Lys Leu Pro Asn
 645 650 655
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 660 665

<210> 11
 <211> 1885
 <212> DNA
 <213> Glycine max

<400> 11
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 cagctctccc ttctcacccc atatgttcaa accctaggcg tcccgcattgc ttgggccccta 240
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 gacaacctga cccaaaagac tcggccacgt gcagtggcga tcttcgtgat cgggttttgg 480
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 gtcggcaaca tcttgggcta tgctgcggga tctacgaagc gcctccaccg cctctccccc 660
 ttcacggaaa ccgaggcatg caacgtcttc tgcgcaaaac tcaagagtgt cttcttcttc 720
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 tacacgcaa aggagagaa ggaaaccgaa gatgcagaga agacacactt ctcgtgcttc 840
 tgccggagaa tttgtcttgc attcaagggg ctgaagaggc caatgtggat gttgatgttg 900
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 aaccctgctt tgggtgggaa cccttccctc ggtatcaaag ttggttccat ggttttcttc 1260
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 tatttgaaaa aaaaaaaaaa aaaaa 1885

<210> 12
 <211> 494
 <212> PRT
 <213> Glycine max

<400> 12
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 20 25 30
 Ser Leu Leu Thr Pro Tyr Val Gln Thr Leu Gly Val Pro His Ala Trp
 35 40 45
 Ala Ser Phe Ile Trp Leu Cys Gly Pro Ile Ser Gly Leu Leu Val Gln
 50 55 60
 Pro Ile Val Gly Tyr Ser Ser Asp Arg Cys Gln Ser Arg Phe Gly Arg
 65 70 75 80
 Arg Arg Pro Phe Ile Leu Ala Gly Ser Leu Ala Val Ala Ile Ala Val
 85 90 95
 Phe Leu Ile Gly Tyr Ala Ala Asp Ile Gly His Ala Ala Gly Asp Asn
 100 105 110
 Leu Thr Gln Lys Thr Arg Pro Arg Ala Val Ala Ile Phe Val Ile Gly
 115 120 125
 Phe Trp Ile Leu Asp Val Ala Asn Asn Met Leu Gln Gly Pro Cys Arg
 130 135 140
 Ala Phe Leu Gly Asp Leu Ala Ala Gly Asp Glu Lys Lys Thr Lys Ala
 145 150 155 160
 Ala Asn Ala Phe Phe Ser Phe Phe Met Ala Val Gly Asn Ile Leu Gly
 165 170 175
 Tyr Ala Ala Gly Ser Tyr Asp Gly Leu His Arg Leu Phe Pro Phe Thr
 180 185 190
 Glu Thr Glu Ala Cys Asn Val Phe Cys Ala Asn Leu Lys Ser Cys Phe
 195 200 205
 Phe Phe Ala Ile Val Leu Leu Val Val Leu Thr Thr Leu Val Leu Ile
 210 215 220
 Thr Val Lys Glu Thr Pro Tyr Thr Pro Lys Ala Glu Lys Glu Thr Glu
 225 230 235 240
 Asp Ala Glu Lys Thr His Phe Ser Cys Phe Cys Gly Glu Leu Cys Leu
 245 250 255
 Ala Phe Lys Gly Leu Lys Arg Pro Met Trp Met Leu Met Leu Val Thr
 260 265 270
 Ala Val Asn Trp Ile Ala Trp Phe Pro Tyr Phe Leu Phe Asp Thr Asp
 275 280 285
 Trp Met Gly Arg Glu Val Tyr Gly Gly Asp Val Gly Gln Lys Ala Tyr
 290 295 300

Asp Ser Gly Val His Ala Gly Ser Leu Gly Leu Met Leu Asn Ala Val
 305 310 315 320
 Val Leu Ala Val Met Ser Leu Ala Ile Glu Pro Leu Gly Arg Val Val
 325 330 335
 Gly Gly Ile Lys Trp Leu Trp Gly Ile Val Asn Ile Leu Leu Ala Ile
 340 345 350
 Cys Leu Gly Met Thr Val Leu Ile Thr Lys Ile Ala Glu His Glu Arg
 355 360 365
 Leu Leu Asn Pro Ala Leu Val Gly Asn Pro Ser Leu Gly Ile Lys Val
 370 375 380
 Gly Ser Met Val Phe Phe Ser Val Leu Gly Ile Pro Leu Ala Ile Thr
 385 390 395 400
 Phe Ser Val Pro Phe Ala Leu Ala Ser Ile Tyr Ser Ser Thr Ser Gly
 405 410 415
 Ala Gly Gln Gly Leu Ser Leu Gly Val Leu Asn Ile Ala Ile Val Val
 420 425 430
 Pro Gln Met Ile Val Ser Thr Ile Ser Gly Pro Trp Asp Ala Leu Phe
 435 440 445
 Gly Gly Gly Asn Leu Pro Ala Phe Val Leu Gly Ala Val Ala Ala Val
 450 455 460
 Val Ser Ala Ile Leu Ala Val Leu Leu Leu Pro Thr Pro Lys Lys Ala
 465 470 475 480
 Asp Glu Val Arg Ala Ser Ser Leu Asn Met Gly Ser Leu His
 485 490

<210> 13
 <211> 1041
 <212> DNA
 <213> Glycine max

<220>
 <221> unsure
 <222> (1007)

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 ccaccaaaca caacaacaat ctctccaagc cttcctccct ccacacggag gctccgccgc 120
 cggaggccag tcccctccgg aagatcatgg tgggtggcctc catcgccgcc ggggtgcaat 180
 tcgggtgggc cctacagctc tctctactta ccccttacgt ccaactgctg gggattcccc 240
 acacttgggc cgccttcctc tggctctgctg gcccaatctc cggcatgctc gtccagccca 300
 tcgtgggata ccacagcgac cgctgcacct cccgcttcgg ccgcccgcgc cccttcctcg 360
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 gccacatggt cggcgactcc ctagecaaaa aaaccgcccc gcgccatcgc atcttcgttg 480
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 tgggcgacct ctgcgcggga gaacaacgga aaacgcgaaa cgcaaacgcc ttcttctcct 600
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 acgggggcat gccgtgcttc gggcaattat tcggtgcgtt ccgcgaactg aagcgtccca 900
 tgtggatcct tctgttggtg acgtgtctga actgggattg cctggttcct ttttgctat 960
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 ggtacgataa ggggttccgt t 1041

<210> 14
 <211> 322
 <212> PRT
 <213> Glycine max

<220>
 <221> UNSURE
 <222> (311)

<220>
 <221> UNSURE
 <222> (321)

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 Ser Ser Leu His Thr Glu Ala Pro Pro Pro Glu Ala Ser Pro Leu Arg
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 Lys Ile Met Val Val Ala Ser Ile Ala Ala Gly Val Gln Phe Gly Trp
 35 40 45
 Ala Leu Gln Leu Ser Leu Leu Thr Pro Tyr Val Gln Leu Leu Gly Ile
 50 55 60
 Pro His Thr Trp Ala Ala Phe Ile Trp Leu Cys Gly Pro Ile Ser Gly
 65 70 75 80
 Met Leu Val Gln Pro Ile Val Gly Tyr His Ser Asp Arg Cys Thr Ser
 85 90 95
 Arg Phe Gly Arg Arg Arg Pro Phe Ile Ala Ala Gly Ser Leu Ala Val
 100 105 110
 Ala Ile Ala Val Phe Leu Ile Gly Tyr Ala Ala Asp Leu Gly His Met
 115 120 125
 Phe Gly Asp Ser Leu Ala Lys Lys Thr Ala Pro Arg His Arg Ile Phe
 130 135 140
 Val Val Gly Phe Trp Ile Leu Asp Val Ala Asn Asn Met Leu Gln Gly
 145 150 155 160
 Pro Cys Arg Ala Leu Leu Gly Asp Leu Cys Ala Gly Glu Gln Arg Lys
 165 170 175
 Thr Arg Asn Ala Asn Ala Phe Phe Ser Phe Phe Met Ala Val Gly Asn
 180 185 190
 Val Leu Gly Tyr Ala Ala Gly Ser Tyr Ser Gly Leu His Asn Val Phe
 195 200 205
 Pro Phe Thr Lys Thr Lys Ala Cys Asp Val Tyr Cys Ala Asn Leu Lys
 210 215 220
 Ser Cys Phe Phe Leu Ser Ile Ala Leu Leu Leu Thr Leu Ser Thr Ile
 225 230 235 240
 Ala Leu Thr Tyr Val Lys Glu Lys Thr Val Ser Ser Glu Lys Thr Val
 245 250 255

Arg Ser Ser Val Glu Glu Asp Gly Ser His Gly Gly Met Pro Cys Phe
 260 265 270

Gly Gln Leu Phe Gly Ala Phe Arg Glu Leu Lys Arg Pro Met Trp Ile
 275 280 285

Leu Leu Leu Val Thr Cys Leu Asn Trp Asp Cys Leu Val Pro Phe Leu
 290 295 300

Leu Phe Asp Thr Asp Trp Xaa Gly Arg Glu Val Tyr Gly Gly Lys Ile
 305 310 315 320

Xaa Gly

<210> 15
 <211> 578
 <212> DNA
 <213> Vernonia mespilifolia

<400> 15
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 acgttgcccg acggtagcaa aaccgcgttg ccaccaggcg gcgacattaa agccggtgct 180
 ttgtcaattt ttgccgtcct cggtgccccca ctactgtgta ctttcagtgt tccatgtgct 240
 cttgcatcaa tatttttctaa cagttcagga gctggacaag gtctatcact tgggtgtttg 300
 aatctagcaa tcgtcatacc acagatgttc gtatcagtac taagtggacc atgggacgca 360
 ctgttcggcg gtggaaactt accagcattt gtggttggag caatttcggc tgcagtaagt 420
 gggatattat cggtcaccat gcttccttcg ccacccccag atgtcgtact ttcaaaggtt 480
 tccggagggtg ggatgcatta gagagtaaat aactgccact caacacgtcc cgattgtgtc 540
 agattgggac atttaggacc aaaaaaaaaa aaaaaaaaaa 578

<210> 16
 <211> 166
 <212> PRT
 <213> Vernonia mespilifolia

<400> 16
 Ala Arg Gly Trp Leu Gly Gly Val Lys Arg Leu Trp Gly Gly Ile Asn
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Phe Leu Leu Ala Val Cys Leu Ala Met Thr Val Val Val Thr Lys Met
 20 25 30

Ala Asp Ser Glu Arg Gln Phe Lys Thr Leu Pro Asp Gly Ser Lys Thr
 35 40 45

Ala Leu Pro Pro Gly Gly Asp Ile Lys Ala Gly Ala Leu Ser Ile Phe
 50 55 60

Ala Val Leu Gly Ala Pro Leu Ala Val Thr Phe Ser Val Pro Cys Ala
 65 70 75 80

Leu Ala Ser Ile Phe Ser Asn Ser Ser Gly Ala Gly Gln Gly Leu Ser
 85 90 95

Leu Gly Val Leu Asn Leu Ala Ile Val Ile Pro Gln Met Phe Val Ser
 100 105 110

Val Leu Ser Gly Pro Trp Asp Ala Leu Phe Gly Gly Gly Asn Leu Pro
 115 120 125

Ala Phe Val Val Gly Ala Ile Ser Ala Ala Val Ser Gly Ile Leu Ser
 130 135 140

Phe Thr Met Leu Pro Ser Pro Pro Pro Asp Val Val Leu Ser Lys Val
145 150 155 160

Ser Gly Gly Gly Met His
165

<210> 17
<211> 1062
<212> DNA
<213> Triticum aestivum

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ccgacgaggc caacgcgttc caggcaggtg tcagggccgg ggcgttcggc ctgctactca 180
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gcaaggagat caagatcgtc tccctcgccc tcttcgcctt cctcggaatc cctctcgcca 420
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aagggtgtgt cacgggcgtg ctgaacatcg ccatcgatgat accccagggtg atcatcgcg 540
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cgtccgcctt cgcgctcatc ggcggcatcg tcggcatatt cctgctgccc aagatctcca 660
ggcgccagtt ccgggcccgtc agcgccggcg gtcactgacc gcgcccgcgc cgggtcggcc 720
tgagcatggc gaaggccgat cgcgcccggc cgaagggtccc agcccagctc ggcatttacc 780
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gaattgtgag gaacctgtat gtgttgtgtc tgtatgtgcg tgtaagtcag tgcgtgtagc 900
ggaaaatgga cagaggaatg cgggcatcca tcgcccggctg ggggtgtcgtc tttgggttgt 960
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cagcgacaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aa 1062

<210> 18
<211> 232
<212> PRT
<213> Triticum aestivum

<400> 18
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Trp Phe Pro Phe Ile Leu Tyr Asp Thr Asp Trp Met Gly Arg Glu Ile
20 25 30
Tyr His Gly Asp Pro Lys Gly Thr Pro Asp Glu Ala Asn Ala Phe Gln
35 40 45
Ala Gly Val Arg Ala Gly Ala Phe Gly Leu Leu Leu Asn Ser Val Val
50 55 60
Leu Gly Phe Ser Ser Phe Leu Ile Glu Pro Leu Cys Lys Arg Leu Gly
65 70 75 80
Pro Arg Val Val Trp Val Ser Ser Asn Phe Leu Val Cys Ile Ser Met
85 90 95
Ala Ala Ile Cys Ile Ile Ser Trp Trp Ala Thr Gln Asp Leu His Gly
100 105 110
Tyr Ile Gln His Ala Ile Thr Ala Ser Lys Glu Ile Lys Ile Val Ser
115 120 125
Leu Ala Leu Phe Ala Phe Leu Gly Ile Pro Leu Ala Ile Leu Tyr Ser
130 135 140

Val Pro Phe Ala Val Thr Ala Gln Leu Ala Ala Asn Arg Gly Gly Gly
 145 150 155 160

Gln Gly Leu Cys Thr Gly Val Leu Asn Ile Ala Ile Val Ile Pro Gln
 165 170 175

Val Ile Ile Ala Val Gly Ala Gly Pro Trp Asp Glu Leu Phe Gly Lys
 180 185 190

Gly Asn Ile Pro Ala Phe Gly Val Ala Ser Ala Phe Ala Leu Ile Gly
 195 200 205

Gly Ile Val Gly Ile Phe Leu Leu Pro Lys Ile Ser Arg Arg Gln Phe
 210 215 220

Arg Ala Val Ser Gly Gly Gly His
 225 230

<210> 19
 <211> 2083
 <212> DNA
 <213> Triticum aestivum

<400> 19
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 ccgtcctgcc cctagatcct tggccgggca gggatacggc gtagaattga taggcgaacg 180
 gacgaggtgg tgategccag ggccggcctct ctgccatggc gcgcggcgga ggcaacggcg 240
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 aaccgcgcgt ggacatcagc ctccggcagac tcctcctcgc cggcatggtc gccggcgggc 360
 tgcagtacgg atgggcgctc cagctctccc tgcaccccc ctacgtccag actctgggac 420
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 aaccatgcgt tgggctctac agtgacaagt gcacatctag atggggaaga cgcagaccgt 540
 ttattctgac aggatgcac tcctctgca ttgctgttgt ggtcgtcggc ttctcggctg 600
 acattggagc tggctgggt gacagcaagg aagatgcag tctctatcat gggcctcgtt 660
 ggcaagctgc aattgtgtat gttcttggat tctggctcct tgacttctcc aacaacactg 720
 tgcaaggtcc agcgcgtgct ctgatggctg atttatcagc tcagcatgga cccagtgcag 780
 caaattcaat cttctgttct tggatggcgc taggaaatat ccttggatac tcctctgggt 840
 ccacaaacaa ctggcacaag tggtttccgt tcctccggac aagggtctgc tgtgaagcct 900
 gcgcaaattc gaaaggcgca ttctgtgtgg cagtgtcgtt cctggccttc tgtttggtga 960
 taactgtgat cttcgccaag gagataccgt acaaggcgat tgcgcccctc ccaacaaagg 1020
 gcaatggcca ggttgaagtc gagccaccgc ggccgctcgc cgtgttcaaa ggcttcaaga 1080
 acttgccctc tagnaatgcc tccgtgtctc tgcactcgg cctcacctgg ctgtcctggt 1140
 tccccttcat cctgtacgac accgactgga tgggtcgtga gatctaccac ggtgacccca 1200
 agggaacccc cgacgaggcc aacgcgttcc aggcaggtgt cagggccggg gcgttcggcc 1260
 tgctactcaa ctccggtcgt ctggggttca gctcgttcc gatcgagccg ctgtgcaaga 1320
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 cgatttgcat cataagctgg tgggtactc aggaacttga tgggtatatc cagcacgcca 1440
 tcaccgccag caaggagatc aagatcgtct ccctcgccct cttcgccctc ctcggaatcc 1500
 ctctcgccat tctgtacagt gtccctttcg cgggtgacggc gcagctggcg gcgaagagag 1560
 gcggtggcca agggctgtgc acgggcgtgc tcaacatcgc catcgtgata cccaggtga 1620
 tcacgcggt gggggcggg ccgtgggacg agctgttcgg caagggaac atcccggcg 1680
 tcggcatggc ctccgccttc gcgtcatcg gcggcatcgt cggcatattc ctgctgcca 1740
 agatctccag gcgccagttc cgggcgtca gcggcggcgg tcaactgagca tggccaaggc 1800
 cggaggtccc agcccagccc gccatttacc aaattttcgc ataggcgtaa ctaggtggct 1860
 ctgccttaag gactccgtag agcagaataa gaattgtgag gaacctgtat gtgttgtgtc 1920
 tgtatgtgcg tgtaagtcag tgcgtgtagc ggaaaatgga cagaggaatg tgggcatcca 1980
 tcaccggctg ggtgtcgtc tttgggtgt gacttgtgtg tagcaaacca aggtgatcaa 2040
 gtgaggggaa atgaatgat gatgaacttt cagcgacaaa aaa 2083

<210> 20
 <211> 522

<212> PRT

<213> Triticum aestivum

<400> 20

Met Ala Arg Gly Gly Gly Asn Gly Glu Val Glu Leu Ser Val Gly Val
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Gly Gly Gly Gly Gly Gly Ala Ala Gly Gly Gly Glu Gln Pro Ala Val
20 25 30
Asp Ile Ser Leu Gly Arg Leu Ile Leu Ala Gly Met Val Ala Gly Gly
35 40 45
Val Gln Tyr Gly Trp Ala Leu Gln Leu Ser Leu Leu Thr Pro Tyr Val
50 55 60
Gln Thr Leu Gly Leu Ser His Ala Leu Thr Ser Phe Met Trp Leu Cys
65 70 75 80
Gly Pro Ile Ala Gly Leu Val Val Gln Pro Cys Val Gly Leu Tyr Ser
85 90 95
Asp Lys Cys Thr Ser Arg Trp Gly Arg Arg Arg Pro Phe Ile Leu Thr
100 105 110
Gly Cys Ile Leu Ile Cys Ile Ala Val Val Val Val Gly Phe Ser Ala
115 120 125
Asp Ile Gly Ala Gly Leu Gly Asp Ser Lys Glu Glu Cys Ser Leu Tyr
130 135 140
His Gly Pro Arg Trp His Ala Ala Ile Val Tyr Val Leu Gly Phe Trp
145 150 155 160
Leu Leu Asp Phe Ser Asn Asn Thr Val Gln Gly Pro Ala Arg Ala Leu
165 170 175
Met Ala Asp Leu Ser Ala Gln His Gly Pro Ser Ala Ala Asn Ser Ile
180 185 190
Phe Cys Ser Trp Met Ala Leu Gly Asn Ile Leu Gly Tyr Ser Ser Gly
195 200 205
Ser Thr Asn Asn Trp His Lys Trp Phe Pro Phe Leu Arg Thr Arg Ala
210 215 220
Cys Cys Glu Ala Cys Ala Asn Leu Lys Gly Ala Phe Leu Val Ala Val
225 230 235 240
Leu Val Leu Ala Phe Cys Leu Val Ile Thr Val Ile Phe Ala Lys Glu
245 250 255
Ile Pro Tyr Lys Ala Ile Ala Pro Leu Pro Thr Lys Gly Asn Gly Gln
260 265 270
Val Glu Val Glu Pro Thr Gly Pro Leu Ala Val Phe Lys Gly Phe Lys
275 280 285
Asn Leu Pro Pro Met Pro Ser Val Leu Leu Val Thr Gly Leu Thr Trp
290 295 300
Leu Ser Trp Phe Pro Phe Ile Leu Tyr Asp Thr Asp Trp Met Gly Arg
305 310 315 320

Glu Ile Tyr His Gly Asp Pro Lys Gly Thr Pro Asp Glu Ala Asn Ala
 325 330 335
 Phe Gln Ala Gly Val Arg Ala Gly Ala Phe Gly Leu Leu Leu Asn Ser
 340 345 350
 Val Val Leu Gly Phe Ser Ser Phe Leu Ile Glu Pro Leu Cys Lys Arg
 355 360 365
 Leu Gly Pro Arg Val Val Trp Val Ser Ser Asn Phe Leu Val Cys Leu
 370 375 380
 Ser Met Ala Ala Ile Cys Ile Ile Ser Trp Trp Ala Thr Gln Asp Leu
 385 390 395 400
 His Gly Tyr Ile Gln His Ala Ile Thr Ala Ser Lys Glu Ile Lys Ile
 405 410 415
 Val Ser Leu Ala Leu Phe Ala Phe Leu Gly Ile Pro Leu Ala Ile Leu
 420 425 430
 Tyr Ser Val Pro Phe Ala Val Thr Ala Gln Leu Ala Ala Lys Arg Gly
 435 440 445
 Gly Gly Gln Gly Leu Cys Thr Gly Val Leu Asn Ile Ala Ile Val Ile
 450 455 460
 Pro Gln Val Ile Ile Ala Val Gly Ala Gly Pro Trp Asp Glu Leu Phe
 465 470 475 480
 Gly Lys Gly Asn Ile Pro Ala Phe Gly Met Ala Ser Ala Phe Ala Leu
 485 490 495
 Ile Gly Gly Ile Val Gly Ile Phe Leu Leu Pro Lys Ile Ser Arg Arg
 500 505 510
 Gln Phe Arg Ala Val Ser Gly Gly Gly His
 515 520

<210> 21
 <211> 2160
 <212> DNA
 <213> Triticum aestivum

<400> 21
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 tctctctccc gtcagccct tcttcccgg cgttgatccg atcgacgtcc tccctctctc 120
 ccggcggttg tccgacgcgc cgtagagttg ataggcgaac gaacggggcg gtgatcgctc 180
 gggcgggccc cctgcgacga tggcgcgcg cggcggcaac ggcgaggtgg agctctcggt 240
 gggggtcggc ggaggcggcg ccggcgccgg cggggcgggac gcccccgccg tggacatcag 300
 cctcggcagg ctcatcctcg ccggcatggt cgccggcggc gtgcagtacg gatgggctct 360
 ccagctctcc ctgctcacc cctacgtcca gactctggga ctttcgcatg ctctgacttc 420
 attcatgtgg ctctgcggcc ctattgctgg attagtgggt caaccatgcy ttgggctcta 480
 cagtgcacaag tgcacttcaa gatggggaag acgcagaccg ttcatcttga caggatgtat 540
 cctcatctgc attgctgtcg tggctgtcgg ctctctcggt gacattggag ctgctctggg 600
 tgacagcaag gaagagtgc gtctctatca tgggcctcgt tggcacgctg caattgtgta 660
 tgttcttgga ttctggctcc ttgacttctc caacaacaca gtgcaaggac cagcgcgtgc 720
 tctgatggct gatttatcag cccagcatgg acccagtga gcaaatcaaa tcttctgttc 780
 ttggatggca ctgggaaata tcttaggata ctcatctggt tccacaaata actggcaca 840
 gtggtttccg ttctccgga caagggttg ctgtgaagcc tgcgcaaata tgaaaggcgc 900
 atttctggtg gcagtgtgt tcttggcctt ctgtttggtg ataaccgtga tcttcgcaa 960
 ggagataccg tacaaggcga ttgcgcccct cccaacaaag gccaatggcc aggttgaagt 1020
 cgagcccacc gggcgctcg ccgtcttcaa aggttcaag aacttgctc ctggaatgcc 1080
 gtcagtgtc ctgctcacc gcctcacctg gctgtcctgg ttccccttca tctgtacga 1140

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caccgactgg atgggtcgtg agatctacca cggtgacccc aaggggaaccc ccgacgaggc 1200
caacgcgttc caggcagggtg tcaggggccgg ggcgttcggc ctgctactca actcggtcgt 1260
cctgggggttc agctcgttcc tgatcgagcc gctgtgcaag aggctaggcc cgcggggtggt 1320
gtgggtgtca agcaacttcc tcgtctgcct ctccatggcc gccatttgca tcataagctg 1380
gtggggccact caggacctgc atgggtacat ccagcacgcc atcaccgcca gcaaggagat 1440
caagatcgtc tccctcgccc tcttcgcctt cctcggaatc cctctcgcca ttctgtacag 1500
tgtcactttc gccgtgacgg cgcagctggc ggcgaacaga tgcggtgggc aatggctgtg 1560
cacgggcggtg ctgaacatcg ccatcgcgat accccagggtg atcatcgcg tgggggcggg 1620
gccgtgggac gagctgttcg gcaagggcaa catcccggcg ttcggcgtgg cgtccgcctt 1680
cgcgctcatc ggcggcatcg tcggcatatt cctgctgccc aagatctcca ggctccagtt 1740
ccggggccgtc agcggcgggc gtcactgacc gcgcgcgcgc ccggtcggcc tgagcatggc 1800
gaaggccgat cgcgccggcc cgaaggtccc agcccagctc ggcatttacc aaattttcgc 1860
ataggcgtaa ctagggggtc ctgcctaag gactccgtag agcagaataa gaattgtgag 1920
gaacctgtat gtgttggtc tgatatgtgc tgtaagtcag tgcgtgtagc ggaaaatgga 1980
cagaggaatg cgggcatcca tcgccggctg ggggtgtcgtc tttgggttgt gacttgtgtg 2040
tagcaaacca aggtgatcaa gtgaggggaa aagaatggat gatgaacttt cagcgacaaa 2100
aaaaaaaaaa aaaaaaaaaa aaaaaataaa aaaaaaaaaa aagaaaaaaa taaaaaaaaa 2160

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<210> 22
<211> 522
<212> PRT
<213> Triticum aestivum

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<400> 22
Met Ala Arg Gly Gly Gly Asn Gly Glu Val Glu Leu Ser Val Gly Val
 1          5          10          15

Gly Gly Gly Gly Ala Gly Ala Gly Gly Ala Asp Ala Pro Ala Val Asp
 20          25          30

Ile Ser Leu Gly Arg Leu Ile Leu Ala Gly Met Val Ala Gly Gly Val
 35          40          45

Gln Tyr Gly Trp Ala Leu Gln Leu Ser Leu Leu Thr Pro Tyr Val Gln
 50          55          60

Thr Leu Gly Leu Ser His Ala Leu Thr Ser Phe Met Trp Leu Cys Gly
 65          70          75          80

Pro Ile Ala Gly Leu Val Val Gln Pro Cys Val Gly Leu Tyr Ser Asp
 85          90          95

Lys Cys Thr Ser Arg Trp Gly Arg Arg Arg Pro Phe Ile Leu Thr Gly
100          105          110

Cys Ile Leu Ile Cys Ile Ala Val Val Val Val Gly Phe Ser Ala Asp
115          120          125

Ile Gly Ala Ala Leu Gly Asp Ser Lys Glu Glu Cys Ser Leu Tyr His
130          135          140

Gly Pro Arg Trp His Ala Ala Ile Val Tyr Val Leu Gly Phe Trp Leu
145          150          155          160

Leu Asp Phe Ser Asn Asn Thr Val Gln Gly Pro Ala Arg Ala Leu Met
165          170          175

Ala Asp Leu Ser Ala Gln His Gly Pro Ser Ala Ala Asn Ser Ile Phe
180          185          190

Cys Ser Trp Met Ala Leu Gly Asn Ile Leu Gly Tyr Ser Ser Gly Ser
195          200          205

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<400> 23
 cggaagcgac gccgcgcggc ccaaggagga acagggcagc ggcgcggggg cgggggaagg 60
 cgcatgaag ggcgcgccc agtggcggtt ggtgctggcc tgcattggtc ccgcccgcgt 120
 gcagttcggc tgggcgctcc agctctccct cctcaccccc tacatccaga ctctaggaat 180
 agaccatgcc atggcgctcct tcattttggt ttgcggggccc attactggtt ttgtggttca 240
 accgtgtgtt ggtgtctgga gtgacaagt cgcgtccaag tacgggagga gacggccgtt 300
 ctttttggtt ggatgcgtgc tgatttgggc agctgtaact ttagtcgggt tttctgcaga 360
 ccttggttac atgttaggag acaccactga gcactgcagt acatacaaa gtctacgata 420
 tcgagctgct tttattttca tttttggatt ctggatgctg gaccttgcaa ataatacagt 480
 tcaaggacct gctcgtgccc tcctagctga tctttcaggt cccgatcaat gtaattcggc 540
 aaatgcaata ttctgctcat ggatggctgt tggaaacgtt cttggttttt cagctggtgc 600
 gagtgggaat tggcacaagt ggtttccttt tctgatgact agggcctgtt gtgaagcttg 660
 tggtaatttg aaagcagctt tcttgattgc agttgtattc cttctgtttt gcatggcgtt 720
 taccctctac tttgctgaag agattccact ggaaccaaag gatgcacagc agttatctga 780
 ctgcgtcctt ctactgaacg gttctagaga tgatcatgat gcttcaagt aacagactaa 840
 tggaggactt tctaacggtc atgctgatgc aaacatgctc tcagctaact ccagtgcaga 900
 tgcaggttcc aactcgaaca aggacgatgt tgaggctttc aatgatggac caggagcagt 960
 tttggttaaa attttgacta gcatgaggca tctacctcct ggaatgtatt ccgtgcttct 1020
 gggtatggcc ctaacatggc tgcgtggtt tccctttttc ctttttgaca ccgactggat 1080
 ggggcgtgag gtttatcacg gtgacccaaa aggaaacgcg agtgaaagga aagcttatga 1140
 tgatggtgtc cgagaagggt catttggttt gctattgaat tcagtcgtcc ttgggatttg 1200
 ctctttcctt atcgatccat tatgccggat gattggtgca agattggttt gggcaatcag 1260
 caacttcata gtgtttgcct gcatgttggc tacaacaata ctaagttgga tctcctatga 1320
 cctgtactcg agcaagcttc aacatattgt cggggcagat agaacagtc aacctcagc 1380
 gcttattctt ttctctcttc tcggattgcc actctcgatc acttatagt ttccgttctc 1440
 cgtgactgct gagctgactg ccggaacagg aggcggacaa ggtttggtta ctggagttct 1500
 gaatcttgcc atcgctgctc ctccagatagt agtgctactc ggagcaggcc catgggacaa 1560
 gctcttggtt ggagggaacg tccccgcttt cggcctggcc tcggtcttct cgctagcagc 1620
 cggagtgtc gcggtgatca agctgcccac gttgtcgaa aattaccaat ccgcccgtt 1680
 ccacatgggc tgaaccctaa agcccgaagc cagctgctgt gtgtaacatc cagatgttta 1740
 gtaccaatcc gccggtttcc atattaagat tcgtttatat ggagatgatt ctttttctcc 1800
 tcttgctaga tacacagtta ataagactac agatcagata gactaggata aagagatagt 1860
 ttttaggcct gtgtgcatac aagtgtcgat gagaagttgt aaaacatgta cactgttttt 1920
 ttgtactgta tatgtagtga aatttcatag atggccggat gtgttctggt ccgataaaaa 1980
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 2030

<210> 24
 <211> 563
 <212> PRT
 <213> Triticum aestivum

<400> 24
 Gly Ser Asp Ala Ala Arg Pro Lys Glu Glu Gln Gly Ser Gly Ala Gly
 1 5 10 15
 Ala Gly Glu Gly Gly Met Lys Gly Ala Pro Lys Trp Arg Val Val Leu
 20 25 30
 Ala Cys Met Val Ala Ala Gly Val Gln Phe Gly Trp Ala Leu Gln Leu
 35 40 45
 Ser Leu Leu Thr Pro Tyr Ile Gln Thr Leu Gly Ile Asp His Ala Met
 50 55 60
 Ala Ser Phe Ile Trp Leu Cys Gly Pro Ile Thr Gly Phe Val Val Gln
 65 70 75 80
 Pro Cys Val Gly Val Trp Ser Asp Lys Cys Arg Ser Lys Tyr Gly Arg
 85 90 95
 Arg Arg Pro Phe Ile Leu Ala Gly Cys Val Leu Ile Cys Ala Ala Val
 100 105 110

Thr	Leu	Val	Gly	Phe	Ser	Ala	Asp	Leu	Gly	Tyr	Met	Leu	Gly	Asp	Thr	115	120	125
Thr	Glu	His	Cys	Ser	Thr	Tyr	Lys	Gly	Leu	Arg	Tyr	Arg	Ala	Ala	Phe	130	135	140
Ile	Phe	Ile	Phe	Gly	Phe	Trp	Met	Leu	Asp	Leu	Ala	Asn	Asn	Thr	Val	145	150	155
Gln	Gly	Pro	Ala	Arg	Ala	Leu	Leu	Ala	Asp	Leu	Ser	Gly	Pro	Asp	Gln	165	170	175
Cys	Asn	Ser	Ala	Asn	Ala	Ile	Phe	Cys	Ser	Trp	Met	Ala	Val	Gly	Asn	180	185	190
Val	Leu	Gly	Phe	Ser	Ala	Gly	Ala	Ser	Gly	Asn	Trp	His	Lys	Trp	Phe	195	200	205
Pro	Phe	Leu	Met	Thr	Arg	Ala	Cys	Cys	Glu	Ala	Cys	Gly	Asn	Leu	Lys	210	215	220
Ala	Ala	Phe	Leu	Ile	Ala	Val	Val	Phe	Leu	Leu	Phe	Cys	Met	Ala	Val	225	230	235
Thr	Leu	Tyr	Phe	Ala	Glu	Glu	Ile	Pro	Leu	Glu	Pro	Lys	Asp	Ala	Gln	245	250	255
Gln	Leu	Ser	Asp	Ser	Ala	Pro	Leu	Leu	Asn	Gly	Ser	Arg	Asp	Asp	His	260	265	270
Asp	Ala	Ser	Ser	Glu	Gln	Thr	Asn	Gly	Gly	Leu	Ser	Asn	Gly	His	Ala	275	280	285
Asp	Ala	Asn	His	Val	Ser	Ala	Asn	Ser	Ser	Ala	Asp	Ala	Gly	Ser	Asn	290	295	300
Ser	Asn	Lys	Asp	Asp	Val	Glu	Ala	Phe	Asn	Asp	Gly	Pro	Gly	Ala	Val	305	310	315
Leu	Val	Lys	Ile	Leu	Thr	Ser	Met	Arg	His	Leu	Pro	Pro	Gly	Met	Tyr	325	330	335
Ser	Val	Leu	Leu	Val	Met	Ala	Leu	Thr	Trp	Leu	Ser	Trp	Phe	Pro	Phe	340	345	350
Phe	Leu	Phe	Asp	Thr	Asp	Trp	Met	Gly	Arg	Glu	Val	Tyr	His	Gly	Asp	355	360	365
Pro	Lys	Gly	Asn	Ala	Ser	Glu	Arg	Lys	Ala	Tyr	Asp	Asp	Gly	Val	Arg	370	375	380
Glu	Gly	Ala	Phe	Gly	Leu	Leu	Leu	Asn	Ser	Val	Val	Leu	Gly	Ile	Gly	385	390	395
Ser	Phe	Leu	Ile	Asp	Pro	Leu	Cys	Arg	Met	Ile	Gly	Ala	Arg	Leu	Val	405	410	415
Trp	Ala	Ile	Ser	Asn	Phe	Ile	Val	Phe	Ala	Cys	Met	Leu	Ala	Thr	Thr	420	425	430
Ile	Leu	Ser	Trp	Ile	Ser	Tyr	Asp	Leu	Tyr	Ser	Ser	Lys	Leu	Gln	His	435	440	445

Ile Val Gly Ala Asp Lys Thr Val Lys Thr Ser Ala Leu Ile Leu Phe
 450 455 460
 Ser Leu Leu Gly Leu Pro Leu Ser Ile Thr Tyr Ser Val Pro Phe Ser
 465 470 475 480
 Val Thr Ala Glu Leu Thr Ala Gly Thr Gly Gly Gln Gly Leu Ala
 485 490 495
 Thr Gly Val Leu Asn Leu Ala Ile Val Ala Pro Gln Ile Val Val Ser
 500 505 510
 Leu Gly Ala Gly Pro Trp Asp Lys Leu Leu Gly Gly Gly Asn Val Pro
 515 520 525
 Ala Phe Ala Leu Ala Ser Val Phe Ser Leu Ala Ala Gly Val Leu Ala
 530 535 540
 Val Ile Lys Leu Pro Lys Leu Ser Asn Asn Tyr Gln Ser Ala Gly Phe
 545 550 555 560
 His Met Gly

<210> 25

<211> 501

<212> PRT

<213> Daucus carota

<400> 25

Met Ala Gly Pro Glu Ala Asp Arg Asn Arg His Arg Gly Gly Ala Thr
 1 5 10 15
 Ala Ala Pro Pro Pro Arg Ser Arg Val Ser Leu Arg Leu Leu Leu Arg
 20 25 30
 Val Ala Ser Val Ala Cys Gly Ile Gln Phe Gly Trp Ala Leu Gln Leu
 35 40 45
 Ser Leu Leu Thr Pro Tyr Val Gln Glu Leu Gly Ile Pro His Ala Trp
 50 55 60
 Ser Ser Ile Ile Trp Leu Cys Gly Pro Leu Ser Gly Leu Leu Val Gln
 65 70 75 80
 Pro Ile Val Gly His Met Ser Asp Gln Cys Thr Ser Lys Tyr Gly Arg
 85 90 95
 Arg Arg Pro Phe Ile Val Ala Gly Gly Thr Ala Ile Ile Leu Ala Val
 100 105 110
 Ile Ile Ile Ala His Ser Ala Asp Ile Gly Gly Leu Leu Gly Asp Thr
 115 120 125
 Ala Asp Asn Lys Thr Met Ala Ile Val Ala Phe Val Ile Gly Phe Trp
 130 135 140
 Ile Leu Asp Val Ala Asn Asn Met Thr Gln Gly Pro Cys Arg Ala Leu
 145 150 155 160

Leu Ala Asp Leu Thr Gly Asn Asp Ala Arg Arg Thr Arg Val Ala Asn
 165 170 175
 Ala Tyr Phe Ser Leu Phe Met Ala Ile Gly Asn Val Leu Gly Tyr Ala
 180 185 190
 Thr Gly Ala Tyr Ser Gly Trp Tyr Lys Val Phe Pro Phe Ser Leu Thr
 195 200 205
 Ser Ser Cys Thr Ile Asn Cys Ala Asn Leu Lys Ser Ala Phe Tyr Ile
 210 215 220
 Asp Ile Ile Phe Ile Ile Ile Thr Thr Tyr Ile Ser Ile Ser Ala Ala
 225 230 235 240
 Lys Glu Arg Pro Arg Ile Ser Ser Gln Asp Gly Pro Gln Phe Ser Glu
 245 250 255
 Asp Gly Thr Ala Gln Ser Gly His Ile Glu Glu Ala Phe Leu Trp Glu
 260 265 270
 Leu Phe Gly Thr Phe Arg Leu Leu Pro Gly Ser Val Trp Val Ile Leu
 275 280 285
 Leu Val Thr Cys Leu Asn Trp Ile Gly Trp Phe Pro Phe Ile Leu Phe
 290 295 300
 Asp Thr Asp Trp Met Gly Arg Glu Ile Tyr Gly Gly Glu Pro Asn Gln
 305 310 315 320
 Gly Gln Ser Tyr Ser Asp Gly Val Arg Met Gly Ala Phe Gly Leu Met
 325 330 335
 Met Asn Ser Val Val Leu Gly Ile Thr Ser Val Leu Met Glu Lys Leu
 340 345 350
 Cys Arg Ile Trp Gly Ser Gly Phe Met Trp Gly Leu Ser Asn Ile Leu
 355 360 365
 Met Thr Ile Cys Phe Phe Ala Met Leu Leu Ile Thr Phe Ile Ala Lys
 370 375 380
 Asn Met Asp Tyr Gly Thr Asn Pro Pro Pro Asn Gly Ile Val Ile Ser
 385 390 395 400
 Ala Leu Ile Val Phe Ala Ile Leu Gly Ile Pro Leu Ala Ile Thr Tyr
 405 410 415
 Ser Val Pro Tyr Ala Leu Val Ser Thr Arg Ile Glu Ser Leu Gly Leu
 420 425 430
 Gly Gln Gly Leu Ser Met Gly Val Leu Asn Leu Ala Ile Val Val Pro
 435 440 445
 Gln Val Ile Val Ser Leu Gly Ser Gly Pro Trp Asp Gln Leu Phe Gly
 450 455 460
 Gly Gly Asn Ser Pro Ala Phe Val Val Ala Ala Leu Ser Ala Phe Ala
 465 470 475 480
 Ala Gly Leu Ile Ala Leu Ile Ala Ile Arg Arg Pro Arg Val Asp Lys
 485 490 495

Ser Arg Leu His His
500

<210> 26
<211> 537
<212> PRT
<213> Oryza sativa

<400> 26
Met Ala Arg Gly Ser Gly Ala Gly Gly Gly Gly Gly Gly Gly Gly Gly
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Gly Leu Glu Leu Ser Val Gly Val Gly Gly Gly Gly Ala Arg Gly Gly
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Gly Gly Gly Glu Ala Ala Ala Ala Val Glu Thr Ala Ala Pro Ile Ser
35 40 45
Leu Gly Arg Leu Ile Leu Ser Gly Met Val Ala Gly Gly Val Gln Tyr
50 55 60
Gly Trp Ala Leu Gln Leu Ser Leu Leu Thr Pro Tyr Val Gln Thr Leu
65 70 75 80
Gly Leu Ser His Ala Leu Thr Ser Phe Met Trp Leu Cys Gly Pro Ile
85 90 95
Ala Gly Met Val Val Gln Pro Cys Val Gly Leu Tyr Ser Asp Arg Cys
100 105 110
Thr Ser Lys Trp Gly Arg Arg Arg Pro Tyr Ile Leu Thr Gly Cys Val
115 120 125
Leu Ile Cys Leu Ala Val Val Val Ile Gly Phe Ser Ala Asp Ile Gly
130 135 140
Tyr Ala Met Gly Asp Thr Lys Glu Asp Cys Ser Val Tyr His Gly Ser
145 150 155 160
Arg Trp His Ala Ala Ile Val Tyr Val Leu Gly Phe Trp Leu Leu Asp
165 170 175
Phe Ser Asn Asn Thr Val Gln Gly Pro Ala Arg Ala Leu Met Ala Asp
180 185 190
Leu Ser Gly Arg His Gly Pro Gly Thr Ala Asn Ser Ile Phe Cys Ser
195 200 205
Trp Met Ala Met Gly Asn Ile Leu Gly Tyr Ser Ser Gly Ser Thr Asn
210 215 220
Asn Trp His Lys Trp Phe Pro Phe Leu Lys Thr Arg Ala Cys Cys Glu
225 230 235 240
Ala Cys Ala Asn Leu Lys Gly Ala Phe Leu Val Ala Val Ile Phe Leu
245 250 255
Ser Leu Cys Leu Val Ile Thr Leu Ile Phe Ala Lys Glu Val Pro Phe
260 265 270
Lys Gly Asn Ala Ala Leu Pro Thr Lys Ser Asn Glu Pro Ala Glu Pro
275 280 285

Glu Gly Thr Gly Pro Leu Ala Val Leu Lys Gly Phe Arg Asn Leu Pro
 290 295 300
 Thr Gly Met Pro Ser Val Leu Ile Val Thr Gly Leu Thr Trp Leu Ser
 305 310 315 320
 Trp Phe Pro Phe Ile Leu Tyr Asp Thr Asp Trp Met Gly Arg Glu Ile
 325 330 335
 Tyr His Gly Asp Pro Lys Gly Thr Asp Pro Gln Ile Glu Ala Phe Asn
 340 345 350
 Gln Gly Val Arg Ala Gly Ala Phe Gly Leu Leu Leu Asn Ser Ile Val
 355 360 365
 Leu Gly Phe Ser Ser Phe Leu Ile Glu Pro Met Cys Arg Lys Val Gly
 370 375 380
 Pro Arg Val Val Trp Val Thr Ser Asn Phe Leu Val Cys Ile Ala Met
 385 390 395 400
 Ala Ala Thr Ala Leu Ile Ser Phe Trp Ser Leu Lys Asp Phe His Gly
 405 410 415
 Thr Val Gln Lys Ala Ile Thr Ala Asp Lys Ser Ile Lys Ala Val Cys
 420 425 430
 Leu Val Leu Phe Ala Phe Leu Gly Val Pro Leu Ala Val Leu Tyr Ser
 435 440 445
 Val Pro Phe Ala Val Thr Ala Gln Leu Ala Ala Thr Arg Gly Gly Gly
 450 455 460
 Gln Gly Leu Cys Thr Gly Val Leu Asn Ile Ser Ile Val Ile Pro Gln
 465 470 475 480
 Val Val Ile Ala Leu Gly Ala Gly Pro Trp Asp Glu Leu Phe Gly Lys
 485 490 495
 Gly Asn Ile Pro Ala Phe Gly Leu Ala Ser Gly Phe Ala Leu Ile Gly
 500 505 510
 Gly Val Ala Gly Ile Phe Leu Leu Pro Lys Ile Ser Lys Arg Gln Phe
 515 520 525
 Trp Ser Val Ser Met Gly Gly Gly His
 530 535

<210> 27
 <211> 533
 <212> PRT
 <213> Ricinus communis

<400> 27
 Met Gln Ser Ser Thr Ser Lys Glu Asn Lys Gln Pro Pro Ser Ser Gln
 1 5 10 15
 Pro His Pro Pro Pro Leu Met Val Ala Gly Ala Ala Glu Pro Asn Ser
 20 25 30
 Ser Pro Leu Arg Lys Val Val Met Val Ala Ser Ile Ala Ala Gly Ile
 35 40 45

Gln	Phe	Gly	Trp	Ala	Leu	Gln	Leu	Ser	Leu	Leu	Thr	Pro	Tyr	Val	Gln
	50					55					60				
Leu	Leu	Gly	Ile	Pro	His	Thr	Trp	Ala	Ala	Phe	Ile	Trp	Leu	Cys	Gly
65					70					75					80
Pro	Ile	Ser	Gly	Met	Leu	Val	Gln	Pro	Ile	Val	Gly	Tyr	His	Ser	Asp
				85					90					95	
Arg	Cys	Thr	Ser	Arg	Phe	Gly	Arg	Arg	Arg	Pro	Phe	Ile	Ala	Ser	Gly
			100					105					110		
Ala	Ala	Phe	Val	Ala	Ile	Ala	Val	Phe	Leu	Ile	Gly	Tyr	Ala	Ala	Asp
		115					120					125			
Leu	Gly	His	Leu	Ser	Gly	Asp	Ser	Leu	Asp	Lys	Ser	Pro	Lys	Thr	Arg
130						135					140				
Ala	Ile	Ala	Ile	Phe	Val	Val	Gly	Phe	Trp	Ile	Leu	Asp	Val	Ala	Asn
145					150					155					160
Asn	Met	Leu	Gln	Gly	Pro	Cys	Arg	Ala	Leu	Leu	Ala	Asp	Leu	Ser	Gly
				165					170					175	
Thr	Ser	Gln	Lys	Lys	Thr	Arg	Thr	Ala	Asn	Ala	Leu	Phe	Ser	Phe	Phe
			180					185					190		
Met	Ala	Val	Gly	Asn	Val	Leu	Gly	Tyr	Ala	Ala	Gly	Ala	Tyr	Thr	His
		195					200					205			
Leu	Tyr	Lys	Leu	Phe	Pro	Phe	Thr	Lys	Thr	Thr	Ala	Cys	Asp	Val	Tyr
	210					215					220				
Cys	Ala	Asn	Leu	Lys	Ser	Cys	Phe	Phe	Ile	Ser	Ile	Val	Leu	Leu	Leu
225					230					235					240
Ser	Leu	Thr	Val	Leu	Ala	Leu	Ser	Tyr	Val	Lys	Glu	Lys	Pro	Trp	Ser
				245					250					255	
Pro	Asp	Gln	Ala	Val	Asp	Asn	Ala	Glu	Asp	Asp	Thr	Ala	Ser	Gln	Ala
			260					265					270		
Ser	Ser	Ser	Ala	Gln	Pro	Met	Pro	Phe	Phe	Gly	Glu	Ile	Leu	Gly	Ala
		275					280					285			
Phe	Lys	Asn	Leu	Lys	Arg	Pro	Met	Trp	Ile	Leu	Leu	Leu	Val	Thr	Cys
	290					295					300				
Leu	Asn	Trp	Ile	Ala	Trp	Phe	Pro	Phe	Leu	Leu	Phe	Asp	Thr	Asp	Trp
305					310					315					320
Met	Gly	Arg	Glu	Val	Tyr	Gly	Gly	Asp	Ser	Ser	Gly	Ser	Ala	Glu	Gln
				325					330					335	
Leu	Lys	Leu	Tyr	Asp	Arg	Gly	Val	Arg	Ala	Gly	Ala	Leu	Gly	Leu	Met
			340					345					350		
Leu	Asn	Ser	Val	Val	Leu	Gly	Phe	Thr	Ser	Leu	Gly	Val	Glu	Val	Leu
		355					360					365			
Ala	Arg	Gly	Val	Gly	Gly	Val	Lys	Arg	Leu	Trp	Gly	Ile	Val	Asn	Phe
	370					375					380				

Val Leu Ala Val Cys Leu Ala Met Thr Val Leu Val Thr Lys Gln Ala
 385 390 395 400
 Glu Ser Thr Arg Arg Phe Ala Thr Val Ser Gly Gly Ala Lys Val Pro
 405 410 415
 Leu Pro Pro Pro Ser Gly Val Lys Ala Gly Ala Leu Ala Leu Phe Ala
 420 425 430
 Val Met Gly Val Pro Gln Ala Ile Thr Tyr Ser Ile Pro Phe Ala Leu
 435 440 445
 Ala Ser Ile Phe Ser Asn Thr Ser Gly Ala Gly Gln Gly Leu Ser Leu
 450 455 460
 Gly Val Leu Asn Leu Ser Ile Val Ile Pro Gln Met Ile Val Ser Val
 465 470 475 480
 Ala Ala Gly Pro Trp Asp Ala Leu Phe Gly Gly Gly Asn Leu Pro Ala
 485 490 495
 Phe Val Val Gly Ala Val Ala Ala Leu Ala Ser Gly Ile Phe Ala Leu
 500 505 510
 Thr Met Leu Pro Ser Pro Gln Pro Asp Met Pro Ser Ala Lys Ala Leu
 515 520 525
 Thr Ala Ala Phe His
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 <210> 28
 <211> 523
 <212> PRT
 <213> Vicia faba
 <400> 28
 Met Glu Pro Leu Ser Ser Thr Lys Gln Ile Asn Asn Asn Asn Asn Leu
 1 5 10 15
 Ala Lys Pro Ser Ser Leu His Val Glu Thr Gln Pro Leu Glu Pro Ser
 20 25 30
 Pro Leu Arg Lys Ile Met Val Val Ala Ser Ile Ala Ala Gly Val Gln
 35 40 45
 Phe Gly Trp Ala Leu Gln Leu Ser Leu Leu Thr Pro Tyr Val Gln Leu
 50 55 60
 Leu Gly Ile His His Thr Trp Ala Ala Tyr Ile Trp Leu Cys Gly Pro
 65 70 75 80
 Ile Ser Gly Met Leu Val Gln Pro Ile Val Gly Tyr His Ser Asp Arg
 85 90 95
 Cys Thr Ser Arg Phe Gly Arg Arg Arg Pro Phe Ile Ala Ala Gly Ser
 100 105 110
 Ile Ala Val Ala Ile Ala Val Phe Leu Ile Gly Tyr Ala Ala Asp Leu
 115 120 125
 Gly His Ser Phe Gly Asp Ser Leu Asp Gln Lys Val Arg Pro Arg Ala
 130 135 140

Ile Gly Ile Phe Val Val Gly Phe Trp Ile Leu Asp Val Ala Asn Asn
 145 150 155 160
 Met Leu Gln Gly Pro Cys Arg Ala Leu Leu Gly Asp Leu Cys Ala Gly
 165 170 175
 Asn Gln Arg Lys Thr Arg Asn Ala Asn Ala Phe Phe Ser Phe Phe Met
 180 185 190
 Ala Val Gly Asn Val Leu Gly Tyr Ala Ala Gly Ala Tyr Ser Lys Leu
 195 200 205
 Tyr His Val Phe Pro Phe Thr Lys Thr Lys Ala Cys Asn Val Tyr Cys
 210 215 220
 Ala Asn Leu Lys Ser Cys Phe Phe Leu Ser Ile Ala Leu Leu Thr Val
 225 230 235 240
 Leu Ala Thr Ser Ala Leu Ile Tyr Val Lys Glu Thr Ala Leu Thr Pro
 245 250 255
 Glu Lys Thr Val Val Thr Thr Glu Asp Gly Gly Ser Ser Gly Gly Met
 260 265 270
 Pro Cys Phe Gly Gln Leu Ser Gly Ala Phe Lys Glu Leu Lys Arg Pro
 275 280 285
 Met Trp Ile Leu Leu Leu Val Thr Cys Leu Asn Trp Ile Ala Trp Phe
 290 295 300
 Pro Phe Leu Leu Phe Asp Thr Asp Trp Met Gly Lys Glu Val Tyr Gly
 305 310 315 320
 Gly Thr Val Gly Glu Gly His Ala Tyr Asp Met Gly Val Arg Glu Gly
 325 330 335
 Ala Leu Gly Leu Met Leu Asn Ser Val Val Leu Gly Ala Thr Ser Leu
 340 345 350
 Gly Val Asp Ile Leu Ala Arg Gly Val Gly Gly Val Lys Arg Leu Trp
 355 360 365
 Gly Ile Val Asn Phe Leu Leu Ala Ile Cys Leu Gly Leu Thr Val Leu
 370 375 380
 Val Thr Lys Leu Ala Gln His Ser Arg Gln Tyr Ala Pro Gly Thr Gly
 385 390 395 400
 Ala Leu Gly Asp Pro Leu Pro Pro Ser Glu Gly Ile Lys Ala Gly Ala
 405 410 415
 Leu Thr Leu Phe Ser Val Leu Gly Val Pro Leu Ala Ile Thr Tyr Ser
 420 425 430
 Ile Pro Phe Ala Leu Ala Ser Ile Phe Ser Ser Thr Ser Gly Ala Gly
 435 440 445
 Gln Gly Leu Ser Leu Gly Val Leu Asn Leu Ala Ile Val Ile Pro Gln
 450 455 460
 Met Phe Val Ser Val Leu Ser Gly Pro Trp Asp Ala Leu Phe Gly Gly
 465 470 475 480

B

Gly Asn Leu Pro Ala Phe Val Val Gly Ala Val Ala Ala Leu Ala Ser
485 490 495
Gly Ile Leu Ser Ile Ile Leu Leu Pro Ser Pro Pro Pro Asp Met Ala
500 505 510
Lys Ser Val Ser Ala Thr Gly Gly Gly Phe His
515 520